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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,621	11/16/2000	Gagan Lal Choudhury	1999-0776	5428

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EXAMINER

LEE, CHI HO A

ART UNIT PAPER NUMBER

2663

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/714,621

Applicant(s)

CHOUNDHURY ET AL

Examiner

Andrew Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re Claim 1, lines 8-9, recitation "in order to reduce likelihood that an available trunk will be declared unavailable" is functional because it defines something by what it does or by a characteristic it has, rather than by what it is e.g., as evidenced by its specific structure See MPEP 2173.05 (g).

Re Claim 9, lines 8-9, same reasoning as above

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 7, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Elwalid et al U.S. Patent Number 6,353,616.

Re Claim 1, fig. 3 teaches a packet classifier 210 (*identifying a predetermined control message; routing control messages*) that monitors each packet to identify the type control messages (See col. 4, lines 68 ~ col. 5, lines 1-10) wherein the filtered control messages are predetermined;

afterworth storing the identified control message by type to their respective receive queues (*storing each ...message queues*);

fig. 3 teaches in step 311 calculating weights for each message queues (*assigning a weight to each queue*) wherein the assignment of weight is based link utilization (*urgency consideration to process the control message*) wherein the scheduler 206 of fig. 2, is capable to reduce likelihood that an available truck will be declared unavailable because it monitors link utilization of the available trunk;

Scheduler 210 performs Round-Robin Scheduling (*developing a sequence*) method that defines the switching of processing by the controller between the classes in a predetermined cyclic order based on the adaptive weight assignment (See col. 6, lines 15-35);

step 302 of fig. 3 allocates processing capacity (*processing the queued message*) to message classes for each queue (See col. 9, lines 30 +), in steps 303-305, the weighted sequence starts processing from first class on to the third class based on allotted processing capacity wherein the weighted scheduling of the processing section is defined as an allocation of a predetermined amount (*T seconds is preselected; a predetermined amount of processing power*) of overall processing capacity to a message class (See col. 6, lines 20-24).

Re Claim 2, 3, 9 refer to Claim 1, a round-robin scheduler 206 for scheduling according to the adaptive weighting assignment (See col. 5, lines 15-30) wherein the scheduler 206 inherently includes the weighted table to enable to identify the particular queued sequence to be processed and the number of entries in the table is corresponding to the sum of the weights that are assigned to the queues (See equation 4 at col. 8, line 45).

Re Claim 7, refer to Claim 1, wherein the packet classifier determines the message type based on the header information (a value in a packet header).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 6, 10, 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elwalid et al U.S. Patent Number 6,353,616.

Re Claims 5, 6, 10, 12, 13, 15, 18, and 20, refer to Claim 1, Elwalid teaches receiving and queuing RSVP protocol control messages but fails to explicitly teach that the control messages includes OSPF HELLO, LSA, and LSA acknowledgement, OSPF HELLO refresh, LSA refresh, and LSA retransmission message sent further nodes. It is known to one skilled that the link-state routing protocol (OSPF and PNNI) includes all of the above control messages. Hence, when the packet network of fig. 1 includes link-state routing protocol, the scheduler 206 can be modified to include more weight

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queues distributing the processing capacity. By modifying Elwalid to link-state routing protocol control messages, the packet network of fig. 1 can be enable to calculate the least cost routing. Furthermore, by round robin weighted scheduling all control available control messages would enable each control messages to be adaptive to the link utilization and the average message queue length. Hence, one skilled in the art would have been motivated to modify the Elwalid to include link-state routing protocol messages into the weighted queues to be adaptive to changing condition of the link and queue length.

Re Claims 13, 14, 16, 17, 19 refer to Claim 1, a round-robin scheduler 206 for scheduling according to the adaptive weighting assignment (See col. 5, lines 15-30) wherein the scheduler 206 inherently includes the weighted table to enable to identify the particular queued sequence to be processed and the number of entries in the table is corresponding to the sum of the weights that are assigned to the queues (See equation 4 at col. 8, line 45).

Allowable Subject Matter

7. Claims 4 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In combination with Claims 1-4; Claims 9 and 11, prior art fails to positioning the entries in the round robin polling table so as to minimize a distance between multiple entries corresponding to the same message type queue

Response to Arguments

8. Applicant's arguments filed 6/23/04 have been fully considered but they are not persuasive.

Re Claim 1, Applicant argues that "processing the queued messages in a predetermined sequence such that each message type is allotted a predetermined amount of processing time" is not taught in Elwalid.

Examiner disagrees. The Round Robin scheduling creates a predetermined sequence based on the determined weight. The determined weight for each queue is associated with a predetermined processing capacity.

Applicant further argues that the claim specifies that the sequencing is such that the queues are allotted "a" singular "predetermined amount of processing power". This limitation is not claimed. Furthermore, in light of fig. 3, steps 303-305, the sum of the processing power for each class is a "singular predetermined amount of processing power".

Applicant argues "There is no notion in Elwalid of processing a queue in accord with a simple algorithm of a certain amount of time that is allocated to the queue". "simple algorithm" is not claimed.

"Obtaining the necessary amount of processing power for a queue (based on the weight factor) by revisiting a queue more than once in a sequence of visits" is not claimed.

"urgency to process considerations, thereby allowing the system to avoid erroneously declaring an available link as unavailable" is functional language. Furthermore, since the Scheduler 210 monitors for link utilization of the received control messages, it is inherent that the Scheduler 210 knows whether the link is available or not.

Applicant argues that "developing a sequence of said queues based on said weights" is not found Elwalid. Examiner disagrees. Steps 303-305 is a sequence based on the Round Robin Scheduling.

Re Claim 9, Applicant argues that "in a manner adapted to reduce likelihood of declaring an available trunk is unavailable" is functional language. Furthermore, since the Scheduler 210 monitors for link utilization of the received control messages, it is inherent that the Scheduler 210 knows whether the link is available or not.

Further argues that "generating a round robin polling table with the number of entries corresponding to the sum of the weights that are assigned to the queues".

Scheduler 206 inherently includes the polling table to enable to identify the particular queued sequence to be processed and the number of entries in the table is corresponding to the sum of the weights that are assigned to the queues
(See equation 4 at col. 8, line 45)

Further argues that, "a predetermined amount of processing power is allotted to each of the message queues". Examiner disagrees. The determined weight for each queue is associated with a predetermined processing capacity.

9. Applicant's arguments with respect to claims 12-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

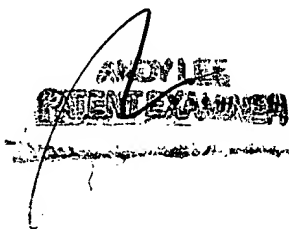
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lee whose telephone number is 571-272-3130. The examiner can normally be reached on Monday to Friday from 8:30AM to 6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AI
6/07/05

A handwritten signature in black ink is written over a rectangular stamp. The stamp contains the word "PATENT" in a bold, sans-serif font. Above the signature, the word "NOTICE" is partially visible. The signature is a stylized, cursive-like mark.